

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for controlling at least one engine cooling fan for a compression ignition internal combustion engine, the method comprising:

turning on the at least one cooling fan when an intake manifold air temperature is equal to or greater than a predetermined turn-on threshold temperature for a predetermined turn-on time; and

turning off the at least one cooling fan when the intake manifold air temperature is equal to or less than a predetermined turn-off threshold temperature for a predetermined turn-off time, wherein the predetermined turn-on threshold temperature is greater than the predetermined turn-off threshold temperature.

2. (original) The method of claim 1 further comprising determining the predetermined turn-on time and the predetermined turn-off time via a look up table and in response to the intake manifold air temperature.

3. (original) The method of claim 1 further comprising turning off the at least one cooling fan when an engine coolant temperature is below a predetermined temperature.

4. (original) The method of claim 3 further comprising turning off the at least one cooling fan when both of the intake manifold air temperature and the engine coolant temperature are equal to or less than respective predetermined temperatures when the intake manifold air and engine coolant temperatures are independent of one another.

5. (original) The method of claim 1 further comprising turning on the at least one cooling fan when a final torque generated by the engine is equal to or greater than a predetermined value.

6. (original) The method of claim 1 further comprising delaying turn-on of the at least one fan when the engine is attempting to start or within 5 seconds after starting.

7. (original) The method of claim 1 further comprising determining the predetermined turn-on time and the predetermined turn-off time using a counter.

8. (original) The method of claim 1 further comprising turning on the at least one fan when there is a fault in at least one sensor related to determination of the intake manifold air temperature.

9. (original) The method of claim 1 further comprising:
turning on a low speed one of the at least one fans when the air inlet temperature is equal to or greater than a predetermined low turn-on threshold temperature for a predetermined low turn-on time;

turning off the low speed fan when the intake manifold air temperature is equal to or less than a predetermined low turn-off threshold temperature for a predetermined low turn-off time, wherein the predetermined low turn-on threshold temperature is greater than the predetermined low turn-off threshold temperature;

turning on a high speed one of the at least one fans when the air inlet temperature is equal to or greater than a predetermined high turn-on threshold temperature for a predetermined high turn-on time; and

turning off the high speed fan when the intake manifold air temperature is equal to or less than a predetermined high turn-off threshold temperature for a predetermined high turn-off time, wherein the predetermined high turn-on threshold temperature is greater than the predetermined high turn-off threshold temperature and the predetermined high turn-on threshold temperature is greater than the predetermined low turn-on threshold temperature.

10. (original) The method of claim 9 further comprising transitioning off the high speed fan when the intake manifold air temperature is equal to or less than the predetermined high turn-off threshold temperature plus a low offset value for the predetermined high turn-off time.

11. (original) A system for controlling at least one cooling fan for a compression ignition internal combustion engine, the system comprising:

at least one sensor for providing an indication of at least one engine component parameter; and

an engine controller in communication with the at least one engine component parameter sensor, the engine controller configured to,

turn on the at least one cooling fan when an intake manifold air temperature is equal to or greater than a predetermined turn-on threshold temperature for a predetermined turn-on time; and

turn off the at least one cooling fan when the intake manifold air temperature is equal to or less than a predetermined turn-off threshold temperature for a predetermined turn-off time, wherein the predetermined turn-on threshold temperature is greater than the predetermined turn-off threshold temperature.

12. (original) The system of claim 11 wherein the controller is further configured to determine the predetermined turn-on time and the predetermined turn-off time via a look up table and in response to the intake manifold air temperature.

13. (original) The system of claim 11 wherein the controller is further configured to turn off the at least one cooling fan when an engine coolant temperature is below a predetermined temperature.

14. (original) The system of claim 13 wherein the controller is further configured to turn off the at least one cooling fan when both of the intake manifold air temperature and the engine coolant temperature are equal to or less than respective predetermined temperatures when the intake manifold air and engine coolant temperatures are independent of one another.

15. (original) The system of claim 14 wherein the controller is further configured to turning on the at least one cooling fan when a final torque generated by the engine is equal to or greater than a predetermined value.

16. (original) The system of claim 11 wherein the controller is further configured to delay turning on the at least one fan when the engine is attempting to start or within 5 seconds after starting.

17. (original) The system of claim 11 wherein the controller is further configured to determine the predetermined turn-on time and the predetermined turn-off time using a counter.

18. (original) The system of claim 11 wherein the controller is further configured to turn on the at least one fan when there is a fault in at least one sensor related to determination of the intake manifold air temperature.

19. (original) The system of claim 11 wherein the controller is further configured to:

turn on a low speed one of the at least one fans when the air inlet temperature is equal to or greater than a predetermined low turn-on threshold temperature for a predetermined low turn-on time;

turn off the low speed fan when the intake manifold air temperature is equal to or less than a predetermined low turn-off threshold temperature for a predetermined low turn-off time, wherein the predetermined low turn-on threshold temperature is greater than the predetermined low turn-off threshold temperature;

turn on a high speed one of the at least one fans when the air inlet temperature is equal to or greater than a predetermined high turn-on threshold temperature for a predetermined high turn-on time; and

turn off the high speed fan when the intake manifold air temperature is equal to or less than a predetermined high turn-off threshold temperature for a predetermined high turn-off time, wherein the predetermined high turn-on threshold temperature is greater than the

predetermined high turn-off threshold temperature and the predetermined high turn-on threshold temperature is greater than the predetermined low turn-on threshold temperature.

20. (original) The system of claim 11 wherein the controller is further configured to transition off the high speed fan when the intake manifold air temperature is equal to or less than the predetermined high turn-off threshold temperature plus a low offset value for the predetermined high turn-off time.